



Theological Science in retrospect

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Tom Torrance's name will probably be recalled in the history of theology in relation to the title of the book by which he was best known during his career: *Theological Science*. Alongside this one needs to put his role in founding the *Scottish Journal of Theology*, and of editing the English translation of the *Church Dogmatics*, but it can be assumed that his award of a Fellowship of the British Academy was due above all to the publication of what must surely rank as his *magnum opus*. Leaving aside his stimulating essays on patristic theology, *Theological Science* set the agenda for a prolific stream of later books and articles.

When I read for a BD at New College from 1974–77 I used to think that these articles could be a little repetitious, and I looked forward to more writing upon the substantial themes of Christian Doctrine. Such thoughts remain with me, to a degree, and I warmly welcome the publication of Tom Torrance's central course in Christian Doctrine, which I only partly heard at first hand, because of the leave of absence which he took from the University, when he was Moderator of the General Assembly. This new book is a superb addition to his published writings.

Tom Torrance's death, and the consequent invitation to write obituaries and appreciations, and to speak at this conference, took me back to *Theological Science* itself. When I first read it, in the first year of my BD I think, I found it a difficult book with which to engage. I know others have frequently found it a hard read, partly because of the style, but more, I think, due to the underlying argument itself. I remember TF remarking to me that Michael Polanyi had found it a difficult book, and more recently Sir Bernard Lovell, a long-standing resident and church organist in my diocese, has said the same to me. They did not find the book difficult because the argument was intrinsically hard to follow – they were among the most brilliant

scientists in the twentieth century – but, I would suggest, because the central argument of the book cut so sharply across the popularly perceived stream of twentieth-century theological writings. The same could be said, of course, of Karl Barth, with whom Tom Torrance felt such a close kinship, amid their very different personalities.

When I re-read *Theological Science* this summer I found myself reacting in a quite different way from the first reading, thirty-five years earlier. Strangely, despite the general addling of my brain through age and the neglect of intellectual activity which is a bishop's lot, I found it a comparatively easy read. Why might this have been the case? Perhaps my mind is now so far addled that the argument simply went over the top of my head. I can't rule this out, but I would like to offer an alternative suggestion, that with the passage of time and especially an additional thirty-five years of Christian discipleship and thirty years of Christian ministry, the book simply made better and more ready sense to me as compared with my youth.

The key to *Theological Science*, as I now see it, lies in the Preface:

If I may be allowed to speak personally for a moment, I find the presence and being of God bearing upon my experience and thought so powerfully that I cannot but be convinced of His overwhelming reality and rationality. To doubt the existence of God would be an act of sheer irrationality, for it would mean that my reason had become unhinged from its bond with real being. (p. ix)¹

I would relate this to Tom Torrance's statement in his autobiographical note that throughout his life he could recite in Mandarin Chinese the rhyme 'Jesus loves me this I know, for the Bible tells me so'. It is easy to forget that it was only as a teenager that he left China, and the mission school in which he had been educated, for the critical fleshpots of Europe. For Tom Torrance, belief in God was as natural an assumption as the belief which today's scientists have that the world of nature is open to rational investigation: that if an experiment is conducted on Monday there is a safe assumption, so safe that it does not even need to be explicitly stated or recognised, that the same experiment later in the week will yield the same result, all other things

being equal. The world in which he had been brought up was a pre-Cartesian, pre-Kantian world, in which it was more natural to doubt one's own existence than the existence of God.

It is this theme which is explored at length, and with considerable intellectual energy, in *Theological Science*. The book ends with the trenchant statement – the word ‘claim’ would seem too weak:

It must not be forgotten that the sole Object of dogmatic statements is the Datum of divine Revelation which does not cease to be God's own Being and Act in His Self-giving, and therefore is not something that passes over into the inner spiritual states of the Church's experience or into its historical consciousness and subjectivity. (p. 351)

To describe God's revelation of himself as a ‘Datum’ raises all sorts of questions, of course. They are most directly addressed in the central chapter in the book, entitled “The Nature of Truth”. For TF there can be no reduction of truth to ideas, or to linguistic statements of ideas. Theological truth, in Christian terms, can only be identified with God himself, in his self-revelation in Jesus Christ: ‘I am the way, the truth, and the life’. As such, Christian knowledge of God has a sacramental character, in which:

[...] visible and invisible, audible and inaudible, earthly and heavenly, the human and the divine, are held together in the unity of the self-communication of the Truth of God to us and of our communion with that Truth. (p. 149)

Tom Torrance is not afraid to use the language of mystery, echoing the New Testament origins of sacramental theology: Christian truth takes the form of a mystery, that is the form of ‘a concrete fact or particular event to which nevertheless the Truth is infinitely transcendent’ (p. 149). Knowledge of the Truth of Revelation therefore needs to take the form which the Truth itself dictates:

It is not known timelessly as the necessary truths of reason are known, nor is it known only historically as other historical

events are known, but known according to its two-fold nature as eternal and historical, as the movement of the eternal in time, a movement that takes our time seriously, and has for ever taken it up, sanctified and healed, into union with itself. (p. 152)

In the New College Dogmatics course, as in *Theological Science* itself, Kierkegaard's *Philosophical Fragments* was used to support this historico-transcendent view of the true object – and subject – of theology. Elsewhere Torrance speaks of the two-fold objectivity of God, the ultimate objectivity of God who comes to us clothed in his proximate objectivity, making himself known only as he stoops to take the form of a servant within the structured objectivities of our world. This engenders a 'baffling element in theological knowledge, the bi-polarity or bi-focality of its truth-reference' (p. 298), which is an inevitable consequence of the unique nature of God and the way in which he has chosen to reveal himself.

Our knowledge of God therefore requires a special act of discernment, in a mode of rationality which reflects the distinctive and unique character of God's revelation of himself. This has commonly been called faith, which, for Torrance, simply means the *fidelity of the human reason* to what is actually there in an encounter with God in the intersection of his historical revelation with our personal histories. Our knowledge of God is thus inseparable from God's knowledge of us, and indeed God's knowledge of us has a precedence: 'Ye have not chosen me, but I have chosen you'. 'Herein is love, not that we loved God but that he loved us'. Tom Torrance was fond of quoting these verses, along with St Paul's repeated 'Ye know God, or rather are known of God'. This gives rise to what Torrance called an 'epistemological inversion' in our knowledge of God.

These themes, and this thesis, are explored at length in *Theological Science*, with much attention to detailed points of logic, and on my recent re-reading it all fell into place much more easily that I recall was the case when I first read it. I would identify two underlying reasons for this.

The first takes me back to my own conversion to Christ, which in retrospect I would describe as follows. As a grammar school boy, the

first generation of my family to go to university, I arrived in Oxford in 1969 to study Chemistry, with little Christian commitment, although I should not underestimate the subliminal significance of my parents underlying, and tacit, Christian faith. The questions ‘what was life about?’, and ‘was there any ultimate meaning in the universe?’ were questions which came naturally to me. One option, fashionable in the late 1960s if in a less strident form than that which is adopted by some Oxford scientists today, would have been atheism or agnosticism. Agnosticism is hardly an answer at all, and atheism appeared to me to be intrinsically unlikely. To look at our world, and the universe, in all its splendour, complexity, and evident rationality and conclude that there was no ultimate explanation of it, and source of meaning outside the universe itself just seemed unlikely. I have sometimes put it as follows, especially when I have had the opportunity to talk with scientists and intellectuals who profess atheism: ‘I just don’t have enough faith to be an atheist’. This, I think helps to explain the residual theism of the great majority of British people today, despite the practical agnosticism which they seem to display, and which many cultural pundits in our society regularly commend.

An alternative to atheism or agnosticism would have been a conventional or deistic belief that the world had a creator, who we might be able to some degree to know, but who remained essentially separate from the universe and our experience in it. The Masonic ‘Great Architect’ of the world in his – or its – various guises, including the pantheistic versions with their ancient pagan pedigrees. But this seemed unlikely too, because alongside the regularity and rationality of the world went its sin and suffering, its evil and emptiness. If God was indeed a cosmic watchmaker, endowed with the unimaginable power which had enabled him to create the universe in the first place, wouldn’t he have made the watch to run better to time? For me, the ‘Great Architect’ didn’t add up, any more than atheism.

At Oxford, largely influenced by some Scottish postgraduate students, I encountered a third option, the classic Christian view, that the world had been created out of nothing by a divine Creator, who had become incarnate within the world, in a mysterious way loving and redeeming it from within, to the point of death on the Cross, and the final conquest of death itself in the Resurrection. At one level,

this was absurd and unbelievable, just as the educated despisers of Christianity had asserted in the early patristic centuries. To them – Celsus and company – Christianity looked like a throwback to the age of the Graeco-Roman myths of Gods and their offspring visiting the earth. Christians were first called Christians at Antioch, of course, much as we might refer to ‘Moonies’ today – followers of an absurd and potentially rather dangerous sect. Yet at another level Christianity in its classical form made more ‘sense’ to me than either the belief that there is no God, or the belief that there is a conventional, deistic, distant or for that matter immanent God. It made more sense because it brought together both the belief in creation, the regularity and rationality of the world, and the belief in salvation or redemption in a world of sin, suffering and death. Yet the sense it made of everything was a mysterious, incomplete, almost counter-intuitive sense, which could only be affirmed in faith, and which, from other perspectives might indeed attract the ridicule and contempt which is having a noisy resurgence today. Nevertheless, as notably argued by Barth and von Balthasar, Christian truth emerges beautiful, precisely because of its mysterious, counter-intuitive character.

When I first read *Theological Science* it began to make sense of my experience, but in a rather fragmented way. Thirty-five years on things had fallen much more into place, as my Christian faith has been tested and refined along life’s journey. The reservation would perhaps be that in defending the rationality of classical Christianity one also needs to acknowledge its counter-intuitive, mysterious aspect, its foolishness to the Greeks, and as a consequence treat gently those who one perceives are still Greeks. As Einstein used to say, in an expression which Tom Torrance often repeated, God doesn’t wear his heart on his sleeve, but all the more reason for resisting a temptation to try to force the logic of the Gospel upon folk, or to designate those who do not yet have a mature Christian commitment. We need to be ready to account for the hope that is in us, ‘yet do it with gentleness and reverence’ (1 Peter 3:15).

The second reason for my much easier adoption of the position advocated in *Theological Science* relates more directly to my experience in Christian ministry, and especially to the last dozen years as a bishop. There are around 360 congregations in the Diocese of

Chester, and I typically visit each one on a Sunday every four or five years. At a given service, it is likely that most of those present have not heard me preach, or not for some years, and for many it will be the only time I will have the opportunity to proclaim Christ. This has the effect of concentrating the mind on what I wish to say.

At the end of the day, what really matters to me about the Christian faith? In today's cultural contexts, what do I most want to get across? This is a very practical question, given the nature of my ministry. The answer, which has emerged quite naturally in the exercise of my ministry, rather than by analysis or design, is that one way or another I try to concentrate upon what I have come to see as at the centre of the Christian faith, the belief that Christian experience radiates from a recognition that one is a child of God, and that one belongs to Jesus Christ as intrinsically part of his very Body, the Church. 'Belonging' undergirds and generally precedes 'believing' or 'behaving'. That, I think, is why the description of a Christian as an adopted child of God is so central in the New Testament, developing the image of the people of Israel as children of the covenant. We easily overlook today the pervasiveness in the Bible of the description of God as Father. We have become so used to praying to 'Our Father' that we have readily come to miss its deep and radical significance. If God regards us as his adopted sons and daughters, co-heirs with Christ, will he not treat his adopted children as every bit as important to him, special to him, loved by him, as is Jesus, his, if you like, 'natural born Son'? We are told that God shows no partiality, but we have too easily confined that to a comparison between Jews and Gentiles, etc. In fact it has a more radical significance. We share Jesus' rights and entitlements as members of the original Royal Family – by grace, but not in any second class way. God has fought for us, and died for us – no cheap grace there. The emphasis given to the language of the Fatherhood of God, and the essential sonship of Christians, in nineteenth-century liberal theology has led to its neglect by more conservative theological traditions, but it is central to the witness of the Bible.

But isn't this precisely the starting point which Tom Torrance set out in *Theological Science*? Just as a child grows up unquestionably with a sense of belonging to his or her particular human family, isn't it just a natural expression of a mature Christian experience to

speak in similar terms of being aware of being a child of God? This is no hubristic or fideistic arrogance, but the basis for all reflection upon the science of the logic of God, which is theology. As I re-read *Theological Science* I was struck by its enduring relevance for the Church, and the connection it made between theological reflection and authentic Christian experience.

I would like to use the remaining sections of this paper to discuss briefly some specific aspects of Tom Torrance's understanding of the relation between theology and modern science, which are mainly explored in later articles and monographs.

Part of the argument of *Theological Science* and the related later books and articles adduce support from the development in modern physics from Newton to Einstein, and subsequent developments in the thermodynamics of open systems, so-called chaos theory. I have always regarded his argument as basically sound, and I have never doubted that Tom Torrance had acquired an impressive understanding of the relevant science. Voices have occasionally been raised to the contrary, including in some obituaries with an unnecessarily dyspeptic tone. Prophets not occasionally achieve only limited honour in their own land, and the criticisms on this front which I have heard have arisen mainly from within Scotland, and indeed the Church of Scotland. Had they been soundly based, the British Academy would not have granted Tom Torrance the considerable honour of a Fellowship. Sir Bernard Lovell has recently said to me how well versed Tom Torrance became in modern physics.

The key point which Torrance recognised was that the move from Newton to Einstein allowed the world to unburden itself of the immanent divinity which infinite and absolute co-ordinates of space and time implied. After Einstein space and time are related and relative to each other, held together by the invariance of the speed of light. Modern cosmology, Big Bang and all, is an outworking of Einstein's foundational theories, and permits us to speak in new ways of 'the universe' or 'creation' as intelligible concepts. The older Newtonian view regarded the universe as infinite, and it is difficult to maintain a discrete concept of that which is infinite. After Einstein, the universe is regarded as finite if unbounded.

The area in which I found Torrance's insights here most helpful

was in his restatement of some fundamental aspects of incarnational and sacramental theology, especially in *Space, Time and Incarnation*. In this elegant little book Torrance shows how the movement of God into time and space, and his overall interaction with time and space, can only be understood out of its own equivalent to Einstein's theory of the field of gravitational space-time. That is, just as events in modern physics cannot be understood apart from a holistic understanding of how space and time relate to the events which they comprise, including the perspective of the observer, so too God's presence in the world, by whatever mode, can only be expressed by reference to the distinctive dynamics of his presence. History is not an independent 'receptacle' into which the pre-existent Christ might parachute (and with which, in an infinite world, he might compete), and neither are the water of baptism or the bread and wine of the Lord's Supper to be regarded as mere stages or receptacles for God's presence and activity. Such a view leads to the dialectic of either mere receptionism, usually associated with Zwingli, or to a mistaken physicalism, usually associated with a certain stream of older Roman Catholic theology. For TF, any approach to incarnational or sacramental theology which attempts to relate God's presence extrinsically to pre-conceived understandings of history or nature would inevitably end in serious error. An interesting example is provided by Newton himself, who wrote extensively upon theological issues. He sided with Arius against Athanasius because in a Newtonian scheme it was easier to see the incarnate Christ as created. In a similar way, Torrance was reluctant to think that the atonement could be understood by reference to one or more abstract 'theories of the atonement', rather than out of the whole mystery of the atonement itself. The consequent rejection of the theory of penal substitution, as developed and stated in some strands of medieval, Reformation, and especially post-Reformation theology brought Tom Torrance into a rather sharp conflict with some New College students, and regrettably soured his relationship with Scottish conservative evangelicalism in general. Later in his life, thankfully, these relationships saw a measure of healing.

Tom Torrance drew an interesting analogy between the role in physics of light with its invariant speed, and the place of the *homoousion* and hypostatic union – the divinity and humanity of Christ

– in theology. Both were to be seen as universal constants, established by God’s grace and will, each to be understood *sui generis* out of their own logic, lodged deep in the heart of God’s purposes in creation and redemption. In the case of Christ this invariance and mystery is that of God’s own Person, with an uncreated logic and rationality.

My own judgement was and is that Tom Torrance was basically right in his approach to the theology of the incarnation and atonement, and sacramental theology. My hesitation is that he never broke sufficiently free from certain aspects of Calvin’s theology: in defending too uncritically Calvin’s doctrine of God, with its unresolved tension between the wrath and the love of God, and therefore in not embracing more clearly Barth’s reconstruction of Calvin’s theology of election, and in failing to relate his sacramental theology of Baptism and the Lord’s Supper to the presence of God to all times and places. Yet, despite what I have come to regard as certain limitations in Tom Torrance’s theological framework, which, if you like, I would have preferred to be rather more Barthian and somewhat less Calvinistic, the basic direction of his relating of theology to the modern scientific revolution in our understanding of space and time was absolutely on the right track.

Tom Torrance drew from Einstein the belief that in all spheres of knowledge there needed to be a new understanding of how theoretical and empirical aspects of knowledge were related, and in particular he built upon Einstein’s own striking account of the inter-dependence of mathematics and physics. Just as in science there was no logical or deductive relationship between theoretical models and the facts which supported them, so theological formulations had to bear an open and revisable relationship to God himself, and to the evidence, scriptural and otherwise, upon which theology rests.

Einstein’s account of the role of intuition in scientific discovery was taken much further by the scientist-philosopher Michael Polanyi. Torrance and Polanyi became good friends, and Torrance was appointed by Polanyi to be his literary executor. Again, by my judgement Torrance made creative and fair use of Polanyi’s work, and helped to express Polanyi’s thought in a rather clearer relation to other philosophers of science than Polanyi himself was able to do. I regard Tom Torrance’s essay “The Place of Michael Polanyi

in the Modern Philosophy of Science”² as among his most brilliant. Just as Torrance himself regarded theology as the extension of the instinctive, intuitive knowledge of God to which his parents had introduced him, so Polanyi presented the whole range of the human quest for knowledge, including empirical science, as a great extension of the perception by which children learn to see the world, and to find their place in it. For both Polanyi and Torrance this implied a united epistemology and ontology in which the usual dialectic of subject and object is transcended, not by any relapse into subjectivism, but by the recognition of a much deeper, mysterious, multi-levelled objectivity in all that we know, and of which we are an intrinsic part, intuitively linked to the God in whom we live and move and have our being, whose knowledge of us precedes and establishes our knowledge of him.

Michael Polanyi chose to establish his philosophy without any necessary reference to God, although he made his broad Christian sympathies clear. The creativity in Tom Torrance’s appropriation of him was in drawing out the potential correlation of Polanyi’s work with Christian theology, although it was not the only form of correlation which scholars have put forward. The more one bases an epistemology upon a non-foundational act of perception or recognition, the more open one needs to be to the possible falsehood of that original intuition, and the more sympathetic towards those who see things differently. This wasn’t always Tom Torrance’s greatest strength, as even his most ardent supporter would admit. Even if others are mainly wrong, they will often be partly right, and in even in their mistakenness they will often draw attention to the weaker aspect of one’s own position and commitments.

Tom Torrance’s tendency towards being somewhat impatient with those with whom he disagreed should not be overstated, and went alongside a deep and sympathetic humanity, but it can perhaps be related to the point where I consider his assessment of the link between theology and natural science was at its weakest. He could speak of developments in modern science as if they were the last word, rather than an improved word, on what had gone before. Who knows what further developments there may yet be in cosmology and theoretical physics?

In a similar vein, Tom Torrance could speak of aspects of Christian doctrine with a greater certainty than may be appropriate. ‘Lord I believe’ always needs the complementary ‘Help thou my unbelief’. The tendencies to over-emphasise the certainties of our knowledge in science and in theology is illustrated by his discussion of created and uncreated light in various places, most notably in a chapter in *Christian Theology and Scientific Culture*.³ Here he leans heavily upon the patristic use of the concept of God as light, but this is a point where the Church Fathers exhibit the limitations of their pre-scientific cultural setting, and are drawn to assert that the orderliness of the universe, and the power of the sun’s light, are direct reflections of God’s illumination of all things. They found it hard fully to maintain what Torrance would elsewhere call the contingent rationality of the created world. He tries to uphold a clear distinction between created and uncreated light, but slips into asserting too close a parallel between them, and makes mistaken claims about the inherent invisibility of created light:

If we commonly speak of light as ‘visible’, it is not because it really is, but because the human eye is adapted to see, not the radiation itself, but its effect in lighting up whatever reflects it.⁴

This is inaccurate, because we do see light directly, within the range of frequency which we call ‘the visible spectrum’, that is, the range of frequencies to which our retina is sensitive. Other animals have a different range, so bees see what to humans are white flowers in a range of ‘colours’. There may be a certain analogy between created and uncreated light, but the differences are greater than Torrance allowed. Arguably, this went along more generally with an insufficient recognition of the need to ‘let science be science’, and indeed, to ‘let creation be creation’.

I choose this as an area where Tom Torrance’s account of the fundamental relationship between theology and science may need some revision, but let me end by emphasising again his very considerable, and to a large degree, pioneering achievement. It is all the greater, in my view, because it came from the heart of his own Christian conviction and experience, and as such was truly an

example of theology in the service of the Church. When will we again see such a distinguished theologian who spent nearly ten years as a parish minister?

Notes

- ¹ Quotations from *Theological Science* are from the Oxford University Press, 1969 edition.
- ² Thomas F. Torrance, *Transformation and Convergence in the Frame of Knowledge: Explorations in the Interrelations of Scientific and Theological Enterprise* (Belfast: Christian Journals Ltd.; Grand Rapids, Mich.: Wm. B. Eerdmans, 1984), 107–73.
- ³ Thomas F. Torrance, *Christian Theology and Scientific Culture: Comprising the Theological Lectures at the Queen's University, Belfast for 1980* (Belfast; Dublin; Ottawa: Christian Journals Ltd., 1980).
- ⁴ *Ibid.*, 91.